

HYBRIDIZATION ASSAY METHOD

Abstract of the Disclosure

The present invention provides a method of detecting an analyte in a sample, which method comprises the steps of (a) contacting the sample with an oligo- or polynucleotide comprising at least one compound selected from the group consisting of:

- (i) a nucleotide having the formula

PM-SM-BASE-Sig

wherein PM is a phosphate moiety, SM is a sugar moiety, BASE is a pyrimidine, purine or 7-deazapurine moiety, and Sig is a detectable moiety, wherein PM is attached at the 3' or the 5' position of the sugar moiety SM when said nucleotide is a deoxyribonucleotide and at the 2', 3' or 5' position when said nucleotide is a ribonucleotide, BASE is attached to the 1' position of SM from the N1 position when BASE is a pyrimidine or the N⁹ position when BASE is a purine or a 7-deazapurine, and Sig is covalently attached to BASE at a position other than the C⁵ position when BASE is a pyrimidine, at a position other than the C⁸ position when BASE is a purine and at a position other than the C⁷ position when BASE is a 7-deazapurine;

- (ii) a ribonucleotide having the formula

Sig



PM—S M—BASE

wherein PM, SM, BASE and Sig are as defined above, wherein PM is attached at the 2', 3' or 5' position of SM, BASE is attached to the 1' position of SM from the N¹ position when BASE is a pyrimidine or the N⁹ position when BASE is a purine or a 7-deazapurine, and Sig is covalently attached to SM; and

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(iii) a nucleotide having the formula

Sig

PM —SM—BASE

wherein PM, SM, BASE and Sig are as defined above, wherein PM is attached to the 3' or the 5' position of SM when said nucleotide is a deoxyribonucleotide and at the 2', 3' or 5' position when said nucleotide is a ribonucleotide, BASE is attached to the 1' position of SM from the N¹ position when BASE is a pyrimidine or the N⁹ position when BASE is a purine, and Sig is covalently attached to PM; and

(b) detecting the presence of any of the oligo- or polynucleotides which have bound to said analyte.